

Release notes for ENDF/B Development photoat-046_Pd_000
evaluation

ENDF
B-VII.dev

October 13, 2016

- checkr Warnings:

1. A previous error halted parsing of the current section
MAT=4600, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=4600, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      157 TO      183
```

- checkr Errors:

1. A variable is outside the allowed ENDF range
MAT=4600, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=4600, MF= 1, MT=451
MOD =      3 OUT OF RANGE      0 -      1      RECORD NUMBER      157
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=501 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=501
SECTION 23/501 NOT IN DIRECTORY      RECORD NUMBER      185
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=502 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=502
SECTION 23/502 NOT IN DIRECTORY      RECORD NUMBER      889
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=504 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=504
SECTION 23/504 NOT IN DIRECTORY      RECORD NUMBER      1173
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=515 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=515
SECTION 23/515 NOT IN DIRECTORY      RECORD NUMBER      1214
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=516 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=4600, MF=23, MT=516
SECTION 23/516 NOT IN DIRECTORY      RECORD NUMBER      1248
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=517 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=517
SECTION 23/517 NOT IN DIRECTORY RECORD NUMBER 1300

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=522 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=522
SECTION 23/522 NOT IN DIRECTORY RECORD NUMBER 1340

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=534 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=534
SECTION 23/534 NOT IN DIRECTORY RECORD NUMBER 1696

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=535 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=535
SECTION 23/535 NOT IN DIRECTORY RECORD NUMBER 1719

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=536 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=536
SECTION 23/536 NOT IN DIRECTORY RECORD NUMBER 1746

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=537 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=537
SECTION 23/537 NOT IN DIRECTORY RECORD NUMBER 1773

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=538 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=538
SECTION 23/538 NOT IN DIRECTORY RECORD NUMBER 1801

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=539 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=23, MT=539
SECTION 23/539 NOT IN DIRECTORY RECORD NUMBER 1831

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=540 (0): Directory (b)

- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=540 | RECORD NUMBER | 1870 |
| SECTION 23/540 NOT IN DIRECTORY | | |
16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=541 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=541 | RECORD NUMBER | 1908 |
| SECTION 23/541 NOT IN DIRECTORY | | |
17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=542 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=542 | RECORD NUMBER | 1960 |
| SECTION 23/542 NOT IN DIRECTORY | | |
18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=543 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=543 | RECORD NUMBER | 2013 |
| SECTION 23/543 NOT IN DIRECTORY | | |
19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=544 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=544 | RECORD NUMBER | 2051 |
| SECTION 23/544 NOT IN DIRECTORY | | |
20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=545 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=545 | RECORD NUMBER | 2097 |
| SECTION 23/545 NOT IN DIRECTORY | | |
21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=546 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=546 | RECORD NUMBER | 2143 |
| SECTION 23/546 NOT IN DIRECTORY | | |
22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=23, MT=547 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=4600, MF=23, MT=547 | RECORD NUMBER | 2211 |
| SECTION 23/547 NOT IN DIRECTORY | | |
23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=502 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=27, MT=502

SECTION 27/502 NOT IN DIRECTORY

RECORD NUMBER 2281

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=504 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=27, MT=504

SECTION 27/504 NOT IN DIRECTORY

RECORD NUMBER 2334

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=505 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=27, MT=505

SECTION 27/505 NOT IN DIRECTORY

RECORD NUMBER 2388

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=4600, MF=27, MT=506 (0): Directory (b)

ERROR(S) FOUND IN MAT=4600, MF=27, MT=506

SECTION 27/506 NOT IN DIRECTORY

RECORD NUMBER 2504

• fudge-4.0 Warnings:

1. generic warning message
reaction label 0: Pd + gamma [coherent] / Product: gamma (Error # 0): Warning

WARNING: coherentScattering is not a valid distribution component for 2-body reaction

2. FIXME: Generic fudge unimplemented message
reaction label 0: Pd + gamma [coherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for pointwise type data

3. generic warning message
reaction label 1: Pd + gamma [incoherent] / Product: gamma (Error # 0): Warning

WARNING: incoherentScattering is not a valid distribution component for 2-body reaction

4. FIXME: Generic fudge unimplemented message
reaction label 1: Pd + gamma [incoherent] / Product: gamma (Error # 2): Generic unimp (c)

WARNING: Checking not yet implemented for piecewise type data

5. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 18: total (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 100.00%

6. Cross sections do not correctly sum up properly according to an ENDF (or equivalent) sumrule
summedReaction label 20: photoelectric absorption (Error # 0): Sumrule

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 72.94%

• fudge-4.0 Errors:

1. Calculated and tabulated thresholds don't agree
reaction label 0: Pd + gamma [coherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

2. 2-body reaction not in center-of-mass frame
reaction label 0: Pd + gamma [coherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!

3. Calculated and tabulated thresholds don't agree
reaction label 1: Pd + gamma [incoherent] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

4. 2-body reaction not in center-of-mass frame
reaction label 1: Pd + gamma [incoherent] / Product: gamma (Error # 1): 2-body not in COM

WARNING: 2-body reaction not in center-of-mass frame!

5. Energy range of data set does not match cross section range
reaction label 1: Pd + gamma [incoherent] / Product: gamma / Distribution incoherentScattering - piecewise: (Error # 0): Domain mismatch (a)

WARNING: Domain doesn't match the cross section domain: (0.0 -> 1000000000.0) vs (1.0 -> 1e+11)

6. Calculated and tabulated thresholds don't agree
reaction label 2: e- + e+ + Pd [electron field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 2.044e6 eV!

7. Calculated and tabulated thresholds don't agree
reaction label 3: e- + e+ + Pd [nuclear field] / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!

8. Calculated and tabulated thresholds don't agree
reaction label 4: e- + Pd1s1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24321. eV!

9. Calculated and tabulated thresholds don't agree
reaction label 5: e- + Pd2s1/2 / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3580. eV!

10. Calculated and tabulated thresholds don't agree
reaction label 6: $e^- + Pd2p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3332.6 eV!
11. Calculated and tabulated thresholds don't agree
reaction label 7: $e^- + Pd2p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3170.6 eV!
12. Calculated and tabulated thresholds don't agree
reaction label 8: $e^- + Pd3s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 654.9400000000001 eV!
13. Calculated and tabulated thresholds don't agree
reaction label 9: $e^- + Pd3p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 555.25 eV!
14. Calculated and tabulated thresholds don't agree
reaction label 10: $e^- + Pd3p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 526.8 eV!
15. Calculated and tabulated thresholds don't agree
reaction label 11: $e^- + Pd3d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 348.24 eV!
16. Calculated and tabulated thresholds don't agree
reaction label 12: $e^- + Pd3d5/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 342.51 eV!
17. Calculated and tabulated thresholds don't agree
reaction label 13: $e^- + Pd4s1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 91.01000000000001 eV!
18. Calculated and tabulated thresholds don't agree
reaction label 14: $e^- + Pd4p1/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 59.68 eV!
19. Calculated and tabulated thresholds don't agree
reaction label 15: $e^- + Pd4p3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 55.09 eV!
20. Calculated and tabulated thresholds don't agree
reaction label 16: $e^- + Pd4d3/2$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 8.140000000000001 eV!

21. Calculated and tabulated thresholds don't agree
reaction label 17: $e^- + Pd_{4d5/2}$ / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.67 eV!

22. Calculated and tabulated thresholds don't agree
summedReaction label 18: total / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1. eV!

23. Calculated and tabulated thresholds don't agree
summedReaction label 19: pair product / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1.022e6 eV!

24. Calculated and tabulated thresholds don't agree
summedReaction label 20: photoelectric absorption / Cross section: (Error # 0): Threshold mismatch

WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 7.67 eV!

• **xsectplotter** Warnings:

1. Encountered runtime warning in xsectplotter or Fudge or matplotlib
Error: RuntimeWarning

stderr while processing crossSection

/usr/local/lib/python2.7/site-packages/matplotlib-1.3.1-py2.7-linux-x86_64.egg/matplotlib/pyplot.py:412: RuntimeWarning
... [3 more lines]